REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-5, 8, and 10-33 are presently pending in this case. Claims 1, 8, 23, and 24 have been amended by way of the present Amendment. Claims 6, 7, 9, and 34 have been canceled without prejudice or disclaimer. Pending Claims 25-33 have been withdrawn from consideration as being drawn to a non-elected invention. Care has been taken such that no new matter has been entered. (See, e.g., page 33, line 17, through page 34, line 7, and the figures including the manner in which reference numerals 25 and 26 are used in the figures.) The Applicants respectfully request entry of the amendments set forth herein as they are believed to place the application into condition for allowance.

In the outstanding Official Action, Claims 1-5, 7, 10-17, 19, 20, and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (U.S. Pub. No. 2003/0226806) in view of Giddings (U.S. Patent No. 4,894,146). Claims 8, 18, and 21-23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. in view of Giddings and further in view of Christel et al. (U.S. Patent No. 6,368,871). Claims 1, 3, 4, 7, 8, 12-14, 17-19, and 21-24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Christel et al. in view of Giddings. For the reasons discussed below, the Applicants request the withdrawal of the obviousness rejections.

The Applicants note that the basic requirements for establishing a *prima facie* case of obviousness as set forth in MPEP 2143 include (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the reference (or references when combined) must teach or suggest all of the claim limitations. The Applicants submit that a *prima facie* case of obviousness cannot be established in the present case for independent Claims 1 and 24, because (1) the cited references, either when taken singularly or in combination, do not teach or suggest all of the claim limitations, and (2) there is no suggestion or motivation to modify or combine the references to arrive at the present invention as claimed.

Independent Claims 1 and 24 both recite a fine channel device comprising, among other features, a fine channel provided with a plurality of partition walls arranged along a boundary formed by at least two kinds of fluid fed from the inlet ports so as not to cause mutual contamination of fluid. Each partition wall of the plurality of partition walls has an upper edge that is elongated and extends along a line parallel to a fluid flow path within the fine channel, and the plurality of partition walls are spaced apart by a distance that is greater than an elongated length of each partition wall. The Applicants respectfully submit that a *prima facie* case of obviousness cannot be established for Claims 1 and 24 based on the teachings of the cited references.

The Young et al. reference is cited for the teaching of channel structures such as channel structures labeled as 200 and separated by diffusion spaces 205, and for the general discussion in paragraphs [0041] and [0042] regarding such channel structures. The Official Action then surmises that any particular arrangement of channel structures would merely be a matter of optimization involving only routine skill in the art. The Applicants respectfully

disagree that the claimed structure is a mere optimization involving only routine skill in the art.

Firstly, the Applicants note that the shapes of the channel structures depicted in the Young et al. reference do not clearly disclose a configuration in which each channel structure of a plurality of channel structures has an upper edge that is elongated and extends along a line parallel to a fluid flow path, with the possible exception of the generic dashed depictions in Figures 4 and 10. Most of the embodiments depicted in detail, such as in Figure 5, depict shapes and groupings that do not correspond to such a limitation. Furthermore, all of the embodiments of the Young et al. reference show a very tight spacing between the channel structures. The Young et al. reference does not disclose an embodiment that teaches a structure as recited in Claims 1 and 24 where each partition wall of the plurality of partition walls has an upper edge that is elongated and extends along a line parallel to a fluid flow path within the fine channel, and *the plurality of partition walls are spaced apart by a distance that is greater than an elongated length of each partition wall.* All of the embodiments of the Young et al. reference depict very small spacings in between channels structures, which are in many cases much longer than the spacings therebetween (see, e.g., Figures 5A, 5D, etc.). While the Young et al. reference may make broad statements regarding spacing and shape, the Young et al. reference does not provide any teaching or suggestion of the advantages combination of features recited in Claims 1 and 24. Thus, not only does the Young et al. reference fail to disclose such a space/length relationship, but the Young et al. reference does not provide a suggestion or motivation to arrive at such a relationship, absent hindsight.

Additionally, the Applicants submit that the Giddings reference does not to cure the

above noted deficiency in the teaching of the Young et al. reference. The Giddings et al. reference describes a thin channel split flow process for particle fractionation that effects separation of the particles. The Official Action cites physical splitter (15a) as the partition wall located in the vicinity of a confluent portion, and physical splitter (15d) as the partition wall located in the vicinity of the branch portion. However, the Giddings reference does not disclose or even suggest a plurality of such walls spaced apart at intervals in a flowing direction of fluid, or any particular spacing/length relationship. Thus, the Giddings reference does not disclose or suggest a structure where each partition wall of the plurality of partition walls has an upper edge that is elongated and extends along a line parallel to a fluid flow path within the fine channel, and *the plurality of partition walls are spaced apart by a distance that is greater than an elongated length of each partition wall.*

Accordingly, a *prima facie* case of obviousness cannot be established for Claims 1 and 24 based on the combined teachings of the Young et al. reference and the Giddings reference. Therefore, the Applicants respectfully request the withdrawal of this obviousness rejection of independent Claims 1 and 24.

Regarding the rejection of Claims 1 and 24 based on the combined teachings of the Christel et al. reference and the Giddings reference, the Official Action cites microcolumns 111, for example as depicted in Figure 5, for the teaching of the partition walls of the present invention. Firstly, the Applicants note that the microcolumns 111 depicted in Figure 5 of the Christel et al. reference do not disclose a configuration in which each channel structure of a plurality of channel structures has an upper edge that is elongated and extends along a line parallel to a fluid flow path. The Christel et al. reference includes a generic discussion of the

configurations of the microcolumns in column 7, lines 40-54, but does not appear to specifically discuss spacing of the microcolumns, and does not discuss a relationship between an elongated length of the microcolumns and a spacing between microcolumns. Most of the embodiments depicted in detail, such as Figures 1a and 5, depict shapes and groupings that do not correspond to the limitations recited in Claims 1 and 24. Furthermore, the Christel et al. reference shows spacings between the microcolumns in most if not all embodiments that are smaller than the length of the microcolumns in the flow direction. The Christel et al. reference does not disclose an embodiment that teaches a structure as recited in Claims 1 and 24 where *each partition wall of the plurality of partition walls has an upper edge that is elongated and extends along a line parallel to a fluid flow path within the fine channel*, and *the plurality of partition walls are spaced apart by a distance that is greater than an elongated length of each partition wall.* While the Christel et al. reference may make broad statements regarding shape of microcolumns, the Christel et al. reference does not provide any teaching or suggestion of the advantages combination of features recited in Claims 1 and 24. Thus, not only does the Christel et al. reference fail to disclose such a shape and space/length relationship, but the Christel et al. reference does not provide a suggestion or motivation to arrive at such a relationship, absent hindsight.

Additionally, as noted above, the Giddings reference does not to cure the above noted deficiencies, and therefore the Giddings reference does not to cure the deficiencies in the teaching of the Christel et al. reference.

Accordingly, a *prima facie* case of obviousness cannot be established for Claims 1 and 24 based on the combined teachings of the Christel et al. reference and the Giddings

reference. Therefore, the Applicants respectfully request the withdrawal of this obviousness rejection of independent Claims 1 and 24.

The dependent claims are considered allowable for the reasons advanced for the independent claim from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed nor suggested by the applied references when those features are considered within the context of their respective independent claim.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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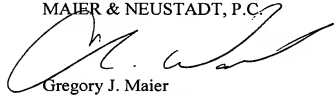

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